Docket: D2506

ABSTRACT

A method and apparatus for digitizing multiple data streams having different clocks spreads an error due to clock drift is spread across many clock cycles in extremely small amounts. To combine two data streams, the method interpolates one or more samples between existing samples of one of the two data streams and then adjusts a number of samples of said one of the two data streams to maintain balance in a downstream synchronizing buffer. This occurs prior to combining the two data streams. The adjusting may be performed by adding or decimating samples from the interpolated samples. To combine two asynchronous data streams having clocks offset in frequency, first, a first data stream is clocked into and out of a first buffer using a first clock associated with the first data stream. Second, a second data stream is clocked into a second buffer using a second clock associated with the second data stream and clocking the second data stream out of the second buffer using the first clock. Third, samples are interpolated into and decimated from samples of the second data stream prior to clocking the second data stream into the second buffer based on an overflow or underflow of the second buffer. Finally, the outputs of the first and second buffers are combined.